

R E M A R K S

A minor error in the specification (noted at p. 6 of the Office Action) has been corrected. Since this Amendment does not increase either the total number of claims or the number of independent claims, no additional fee is necessary.

Claims 1, 4 - 7 and 25 are in the application. All the claims have been rejected under 35 U.S.C. §103(a) as unpatentable over each of the following combinations of references:

- (1) Elsermans combined with Iwasaki and Kuramoto;
- (2) Aoki combined with Moser, Iwasaki and Kuramoto;
- (3) Takahashi combined with Moser, Iwasaki and Kuramoto;
- (4) Hata combined with Moser, Iwasaki and Kuramoto; and
- (5) Iwasaki combined with Kuramoto, McNally and Moser.

In each of these grounds of rejection, Iwasaki is applied "as evidenced by" Chemical Abstracts and Industrial Organic Pigments citation and "applicants' admissions (I)," and Kuramoto is applied "as evidenced by applicants' admissions (II)."

Applicants submit that independent claims 1 and 25 distinguish patentably over each of these asserted combinations of references in defining the color toners used in the claimed method by the recital

"wherein each of the color toner images has a haze factor not greater than 20% when the color toner images have a weight of 8 g/m² and are fixed."

Claims 4 - 7 are submitted to distinguish patentably over each of the asserted combinations of references by virtue of their dependence on claim 1.

As applicants' specification explains, when the color toners employed in the claimed method have the "haze factor" property set forth in the above-quoted recital, "the resultant toner image has

good color reproducibility" (p. 8, lines 23-26). In the Examples of the invention described in the specification, when the toners have "a haze factor not greater than 20%, the resultant toner images have better color reproducibility" (p. 39, lines 5-7).

None of the references applied in the several grounds of rejection of the claims under §103(a) is seen to contain any mention of haze factor of color toners, much less to suggest that it is or might be a result-effective variable for any purpose. There is no express teaching whatsoever of a color toner having a haze factor not greater than 20% under the conditions specified in the above-quoted recital in each of applicants' claims 1 and 25.

In all the stated grounds of rejection, the Office Action relies solely on Iwasaki for the "haze factor not greater than 20%" property of the color toners used in the claimed method. Acknowledging (at p. 6) that "Iwasaki does not disclose that the color toners provide a color image having a haze factor as recited in instant claims 1 and 25," the Office Action asserts (p. 7) that this feature is inherent in the Iwasaki disclosure:

"Because the Iwasaki color toners in example 13 are obtained by a method that appears to be the same or substantially the same as the method disclosed in the instant specification, and because the Iwasaki color toners provide fixed clear toner images having good color reproducibility, it is reasonable to presume that the Iwasaki color toners produce color images having the haze factor recited in the instant claims."

The "method disclosed in the instant specification" (for producing the "low haze factor" toners) is described in the Office Action (p. 6) as using

"a master batch in which a pigment is dispersed in a binder resin in a high content . . .
[T]he master batch can be prepared preferably by kneading methods in which the pigment is kneaded with a resin using two-roll or three-roll mill."

The Iwasaki method is described in the Office Action (pp. 6-7) as using

"a pigment master batch where the batch is obtained by kneading the pigment and the binder resin in weight ratio of 23:54 with a metal oxide particulate in a twin-screw kneader. See col. 17, lines 23-43; and example 13 at col. 18, lines 43 and 66, and col. 19, line 1."

Applicants, in response, direct attention to Toner Manufacturing Examples 2 and 4 respectively set forth at pp. 22-25 and pp. 29-33 in their specification. In Toner Manufacturing Example 2, the preparation of a master batch for Yellow Toner 2 is described, in pertinent part, as follows:

"The following components were mixed with a mixer, and then kneaded 5 times with a three-roll mill.

"Pigment having formula (2) 800

"Polyol resin A 1200"

(p. 23, lines 15-19). The haze factor of a layer of the resultant Yellow Toner 2 "having a weight of 8 g/m² was 15%" (p. 24, lines 7-8). In contrast, in Toner Manufacturing Example 4, to prepare a master batch for Yellow Toner 4, the same components in the same proportions "were mixed with a mixer, and then kneaded with a three-roll mill such that the mixture was passed through the three-roll mill twice" (p. 30, lines 17-22). The resultant

Yellow Toner 4, in a layer having a weight of 8 g/m², had a haze factor of 23% (p. 31, lines 10-12).

Thus, the yellow toners produced from the same proportions of the same components, both mixed with a mixer and then kneaded with a three-roll mill, had different haze factor properties (respectively below and above 20%, i.e., within and outside the scope of the present claims) depending on whether the master batch-forming mixture was kneaded five times with the three-roll mill or passed twice through the three-roll mill.

Again, in Toner Manufacturing Example 2, Magenta Toner 2 was prepared from a master batch produced by mixing 400 parts each of pigment of formula (4) and pigment of formula (5) and 1200 parts of polyol resin (A) with a mixer, and then kneading the mixture "5 times with a three-roll mill" (p. 24, lines 10-15); the resultant Magenta Toner 2 had a haze factor of 14%, determined as specified in applicants' claims (p. 25, lines 3-4). Magenta Toner 4 in Toner Manufacturing Example 4 was prepared from a master batch containing the same components in the same proportions and produced by the same steps except that "the mixture was passed through the three-roll mill twice" (p. 31, lines 14-20); the haze factor of Magenta Toner 4, determined the same way as that of Magenta Toner 2, was 22% (p. 32, lines 9-10). As in the case of the yellow toners, therefore, whether the haze factor of these otherwise identical Magenta Toners 2 and 4 was above or below 20% depended on whether the master batch-forming mixture was kneaded five times with the three-roll mill or passed through the three-roll mill twice.

Turning to Iwasaki, applicants note that in the passages cited by the Examiner, to prepare master batches for the color toners, 540g of a polyester resin, 230g of "chromatic coloring material" (e.g., magenta or yellow pigment) and 230g of silica

"were introduced into a 9-liter capacity Henschel mixer . . . and were mixed at a peripheral speed of 40 m/sec. for 4 minutes. The resulting mixture was melted and kneaded in a twin-screw kneader-extruder (PCM-30, made by Ikagai Tekko K.K.) and, after having been cooled, the kneaded mixture was pulverized" (col. 17, lines 23-43, cited in the Office Action).

While the description is quite detailed as to the initial mixing conditions, it does not specify the extent or duration of kneading.

As explained above, applicants' specification Examples 2 and 4 demonstrate that the haze factor of a color toner is critically dependent on the extent of kneading in the production of the master batch from which the toner is made. Master batches containing identical proportions of identical ingredients and subjected to mixing and kneading steps in the same mixers and mills result in toners having different haze factors (respectively below and above 20%) depending on whether the master batch mixtures are kneaded five times in a three-roll mill or passed twice through the three-roll mill. If the extent of kneading were not thus set forth in applicants' Toner Manufacturing Examples 2 and 4, a person skilled in the art, replicating these examples with exact duplication of every other detail of composition, proportions, equipment, procedures and conditions therein given, would not with certainty produce a toner having a haze factor not greater than 20%. Whether the haze factor of the toner so produced is below or above 20% would be mere happenstance, i.e., determined by the extent of kneading the artisan happened to apply, in the absence of guidance from the description.

By a parity of reasoning, if a person skilled in the art were to produce color toners by replicating every detail specified in Iwasaki's Example 13, including every detail of the master batch preparation procedure described at col. 17, lines 23-43, in Iwasaki, it would be mere happenstance whether the resultant toner would have a haze factor above or below 20%, depending on the extent of kneading that the artisan happened to apply, since (as applicants' Toner Manufacturing Examples 2 and 4 demonstrate), the extent of master batch kneading (not taught by Iwasaki) determines the haze factor of the produced toner. That is, Iwasaki does not provide sufficient teaching to make certain that the described procedure and conditions of Example 13 would necessarily result in a toner inherently having a haze factor not greater than 20%.

As stated in M.P.E.P. §2112 (IV),

"The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic [citing cases] 'To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency . . . may not be established by probabilities or possibilities. The mere fact that a certain thing may result from given set of circumstances is not sufficient.'"

Consequently, a toner having a haze factor not greater than 20% is not inherently disclosed in Example 13 of Iwasaki.

The asserted teaching of Iwasaki respecting "good color reproducibility and excellent transparency" of the toners of the

patent does not support a conclusion of inherency of the haze factor property. In the first place, in the results given by Iwasaki for Example 13 (Table 3, col. 20, line 16, cited in the Office Action) the color reproduction rating was not "good" but instead was "somewhat less favorable" (see col. 12, lines 28-31, of Iwasaki for an explanation of the symbols used in Table 3). Secondly, these descriptive terms as used in Iwasaki are subjective and relative rather than being objectively quantified; it is at best indefinite whether even Iwasaki's "good color reproduction" (col. 12, lines 28-29) is comparable to applicants' "better color reproducibility" (p. 39, lines 6-7). Finally, applicants' results are obtained with the non-contact fixing to which the present claims are limited, whereas Iwasaki does not employ non-contact fixing, and as applicants' specification explains (p. 2, lines 18-22), problems of color reproducibility are "prominent" in non-contact fixing (as opposed to contact fixing) operations; i.e., applicants' discovery that a low haze factor is associated with improved color reproducibility in non-contact fixing provides no basis for inference that even good color reproducibility in Iwasaki's operations evidences an inherently low haze factor in the toners.

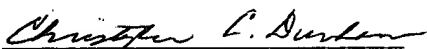
Assuming *arguendo* that, if the desirability of a low haze factor for Iwasaki's toner were known, it would have been within the ordinary skill in the art to modify or select within Iwasaki's Example 13 the conditions (extent of kneading) that would achieve it, nevertheless the fact remains that Iwasaki and all the other applied references are silent as to haze factor. Only applicants' own disclosure - which is not available as a reference - indicates the desirability or advantage of a toner having the claimed haze factor property. Moreover, while applicants' specification, particularly in Examples 2 and 4, teaches persons skilled in the

art how to achieve that haze factor property, Iwasaki provides no teaching or suggestion in this regard.

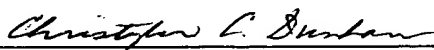
What is lacking in Iwasaki respecting express or inherent disclosure of a toner having the claimed haze factor property is not even assertedly supplied by any of the other applied references. It follows that no combination of these references, including Iwasaki, would make obvious the method of applicants' present claims 1, 4 - 7 and 25, and specifically that the haze factor limitation recited in claims 1 and 25 presents a clear and patentable distinction thereover.

For the foregoing reasons, it is believed that this application is now in condition for allowance. Favorable action thereon is accordingly courteously requested.

Respectfully,


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I hereby certify that this paper is being deposited this date with the U.S. Postal Service as first class mail addressed to Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.


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